

**REMARKS****I. Introduction**

In response to the pending Office Action, Applicants have cancelled claims 2, 7-12 and 14, without prejudice, and have amended claims 1, 3-6, 13, 15, 16 and 18 so as to further clarify the intended subject matter of the present invention as well as address the pending objections and rejections to the claims under 35 U.S.C. § 112. It is noted that claims 1 and 13 have been amended to include the elements recited in dependent claims 2 and 14, which have been cancelled. In addition, Applicants have added new claims 18-29 to recite additional aspects of the present invention not previously claimed. No new matter has been added.

**II. The Rejection Of The Claims Under 35 U.S.C. § 112**

Claims 1, 7 and 13 were rejected under 35 U.S.C. § 112, first paragraph, as failing to provide adequate disclosure concerning the phrase “modifying said mask pattern for each feature categorized into a predefined distinct zone...”. In response to this rejection, Applicants have amended the claims to recite that once the feature is defined into one of the distinct zones, the feature is formed in the mask pattern based on the technique assigned to the given distinct zone. The three techniques recited by amended claims 1 and 13 are clearly disclosed in the specification as originally filed. Accordingly, as the language in question has been deleted from the claims, it is respectfully submitted that the rejection of claims 1, 7 and 13 under 35 U.S.C. § 112, first paragraph, has been overcome.

**III. The Rejection Of The Claims Under 35 U.S.C. § 102**

Claims 1, 2, 7, 8, 13 and 14 were rejected under 35 U.S.C. § 102 as being anticipated by USP No. 6,605,481 to Wu. For at least the following reasons, it is respectfully submitted that the amended claims are not anticipated by Wu.

As recited by amended claim 1, the present invention relates to a method of forming a mask for imaging a pattern having a plurality of features on a substrate, in which a plurality of distinct zones are identified based on the critical dimensions of the features, and the features are assigned to one of the distinct zones. The distinct zones include at least three zones, a first zone in which the features are imaged utilizing chromeless phase lithography techniques, a second zone in which the features are imaged utilizing a combination of chromeless phase lithography techniques and chrome, and a third zone in which the features are imaged utilizing chrome. As explained in detail in the specification, by assigning the features to one of these three zones (i.e., a chromeless zone, a combination zone combining chromeless and chrome, and a chrome zone), the present invention allows for critical dimension linearity over a range of critical dimensions to be imaged. In other words, the present invention provides an easy method of obtain accurate reproduction of features to be imaged even though the width of the features varies over a wide range.

Turning to the cited prior art, while Wu discloses assigning features to different zones, for example, based on feature size, each of the zones disclosed by Wu relate to a different phase shifting priority. For example, Wu discloses defining the different zones based on the size of the phase-shifters to be utilized in the given zone (see, Wu, col. 5, lines 23-27). This is apparently done in an effort to minimize and resolve phase-coloring conflicts in the final mask (see, Wu, col. 2, line 62 – col. 3, line 9). Importantly, however, there does not appear to be any disclosure

in Wu regarding defining three distinct zones, which include a first zone in which the features are imaged utilizing chromeless phase lithography techniques, a second zone in which features are imaged utilizing a combination of chromeless phase lithography techniques and chrome, and a third zone in which features are imaged utilizing chrome. As one example, Wu does not appear to disclose assigning any features to a zone in which the features would be imaged by chrome, as recited by the third zone of the present invention. Indeed, nowhere does Wu appear to disclose the three distinct zones and their imaging techniques for imaging the features assigned to the respective zones as recited by the amended claims of the present invention. Nor does Wu appear to mention or discuss the problem solved by the present invention regarding maintaining critical dimension linearity for features to be imaged which have a wide range of critical dimensions. As noted, Wu merely appears to provide a method of minimizing and resolving phase conflicts. Thus, at a minimum, Wu fails to disclose or suggest the use of the three distinct zones recited by the amended claims.

Accordingly, as anticipation under 35 U.S.C. § 102 requires that each element of the claim in issue be found, either expressly described or under principles of inherency, in a single prior art reference, *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 218 USPQ 781 (Fed. Cir. 1983), for at least the foregoing reasons, it is clear that Wu does not anticipate amended claim 1 or 13, or any claim dependent thereon.

#### **IV. All Dependent Claims Are Allowable Because The Independent Claims From Which They Depend Are Allowable**

Under Federal Circuit guidelines, a dependent claim is nonobvious if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, *Hartness International Inc. v. Simplimatic Engineering*

*Co.*, 819 F.2d at 1100, 1108 (Fed. Cir. 1987). Accordingly, as claims 1 and 13 are patentable for the reasons set forth above, it is respectfully submitted that all claims dependent thereon are also in condition for allowance.

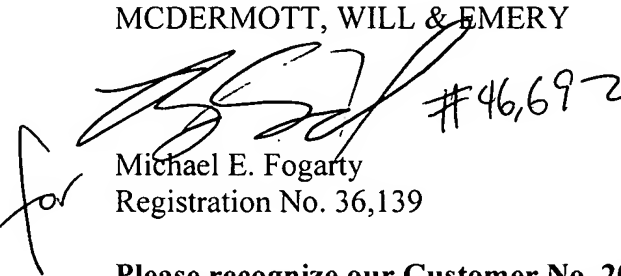
**V. Request For Notice Of Allowance**

Having fully responded to all matters raised in the Office Action, Applicants submit that all claims are in condition for allowance, an indication for which is respectfully solicited.

If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicants' attorney at the telephone number shown below.

Respectfully submitted,

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